RESTRICTED CIRCULATION

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Agricultural Memorandum No 778

Sheep P.G.E. Forecasting - use of rain or wet days only

by

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Although Ag Mem 777 provides a satisfactory operational basis for forecasting, the process can be simplified by using

M_1, Ju_1 Jy_1 for weighted number of rain days

M_2, Ju_2 Jy_2 for weighted number of wet days, and

A for weighted return date the previous autumn

then

Disease rating = $0.295A + 0.08\ M_1 + 0.22\ Ju_1 + 0.41\ Jy_1 - 7.33$
with a multiple correlation of 0.9455

or = $0.3A + 0.12\ M_2 + 0.25\ Ju_2 + 0.5\ Jy_2 - 6.16$
with a multiple correlation of 0.9721

These formulae can be simplified by using

$$D_1 = M_1 + 2\ Ju_1 + 4\ Jy_1$$

$$D_2 = M_2 + 2\ Ju_2 + 4\ Jy_2$$ giving

Rating = $0.3A + 0.1\ D_1 - 7.6$ or

$= 0.3A + 0.126\ D_2 - 6.22$ - - - (3)

with no loss of accuracy.

The wet day formula is slightly the better, giving the following results

Disease Rating

Year	Forecast	Actual
1954	6.0	6
1955	0.5	1
1956	6.2	6
1957	3.9	3
1958	6.7	7
1959	0.8	1
1960	7.5	8

Disease Rating Contd:-

Year	Forecast	Actual
1961	1.2	1
1962	2.4	3
1963	5.3	5
1964	2.9	2
1965	7.4	7
1966	4.6	5
1967	2.5	2
1968	3.7	5
1969	1.3	1
Independent check		
1970	3.8	1
1971	2.2	3
1972	4.9	4
1973	4.8	5
1974	4.7	6

Any comments or suggestions on this paper should be referred to the author.

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